E 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648-XB032]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Army Corps of Engineers Port San Luis Breakwater Repair Project, Avila Beach, California

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; issuance of an incidental harassment authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to the Army Corps of Engineers (ACOE) to incidentally harass, by Level B harassment only, marine mammals during construction activities associated with the Port San Luis Breakwater Repair Project in Avila Beach, California.

DATES: This Authorization is effective from April 1, 2022 through March 31, 2023.

FOR FURTHER INFORMATION CONTACT: Dwayne Meadows, Ph.D., Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act*. In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the "take" of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq*.) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed incidental take authorization may be provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other "means of effecting the least practicable adverse impact" on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as "mitigation"); and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth.

The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

Summary of Request

On March 13, 2020, NMFS received an application from the ACOE requesting an IHA to take small numbers of three species of pinnipeds incidental to resetting and replacing stone and dredging associated with the San Luis Breakwater Repair Project. ACOE subsequently notified us that funding, workload and other issues led them to delay the project 1 year. A revised application was sent on February 18, 2021 and the

application process was reinitiated. The application was deemed adequate and complete on March 1, 2021. ACOE's request is for take of a small number of three species of marine mammals by Level B harassment. Neither the ACOE nor NMFS expects serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

Description of Specified Activity

Overview

The project consists of the repair of a deteriorating breakwater at Port San Luis, California. Repair work includes minor excavation of shoaled sediment (~ 15,000 cubic yards (11,470 cubic meters)) adjacent to the leeward side of the breakwater to create adequate depths for barges and support boats to access the breakwater for the repair. Approximately 29,000 tons (26,310 metric tons) of existing stone would need to be reset and 60,000 tons (54,430 metric tons) of new stone would be placed to restore the most heavily damaged portion of the breakwater. The project is expected to take no more than 174 work days over 7 months. The sounds and visual disturbance from the work can result in take of marine mammals through behavioral harassment and/or auditory injury. A detailed description of the planned project is provided in the **Federal Register** notice for the proposed IHA (86 FR 14579; March 17, 2021). Since that time, no changes have been made to the planned activities. Therefore, a detailed description is not provided here. Please refer to that **Federal Register** notice for the description of the specific activity.

Comments and Responses

A notice of NMFS's proposal to issue an IHA to the ACOE was published in the **Federal Register** on March 17, 2021 (86 FR 14579). That notice described, in detail, the ACOE's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. During the 30-day public comment

period, NMFS received public comment from one commenter. The U.S. Geological Survey noted they have "no comment at this time".

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history, of the potentially affected species. Additional information regarding population trends and threats may be found in NMFS's Stock Assessment Reports (SARs; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*) and more general information about these species (*e.g.*, physical and behavioral descriptions) may be found on NMFS's website (*https://www.fisheries.noaa.gov/find-species*).

Table 1 lists all species or stocks for which take is expected and authorized for this action, and summarizes information related to the population or stock, including regulatory status under the MMPA and ESA and potential biological removal (PBR), where known. For taxonomy, we follow Committee on Taxonomy (2019). PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS's SARs). While no mortality is anticipated or authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS's stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S.

waters. All managed stocks in this region are assessed in NMFS's U.S. Pacific SARs and draft SARs (*e.g.*, Carretta *et al*. 2019, 2020).

Table 1. Species That Spatially Co-occur with the Activity to the Degree That Take Is Reasonably Likely to Occur

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N)[1]	Stock abundance (CV, N_{min}, most recent abundance survey)[2]	PBR	Annual M/SI[3]
Order Carnivora – Superfamily Pinnipedia						
Family Otariidae (eared seals and sea lions)						
California Sea Lion	*Zalophus californianus*	United States	-, -, N	257,606 (N/A, 233,515, 2014)	14,011	>321
Steller Sea Lion	*Eumetopias jubatus*	Eastern DPS	-, -, N	43,210 (N/A, 43,201, 2017)	2,592	113
Family Phocidae (earless seals)						
Harbor seal	*Phoca vitulina*	California	-, -, N	30,968 (N/A, 27,348, 2012)	1,641	43

[1] - Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds Potential Biological Removal (PBR) or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.
[2]- NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports*. CV is coefficient of variation; Nmin is the minimum estimate of stock abundance.
[3] - These values, found in NMFS's SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.*, commercial fisheries, ship strike). Annual mortality/serious injury (M/SI) often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

A detailed description of the of the species likely to be affected by the project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice for the proposed IHA (86 FR 14579; March 17, 2021); since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to that **Federal Register** notice for these descriptions. Please also refer to NMFS' website (*https://www.fisheries.noaa.gov/find-species*) for generalized species accounts.

Potential Effects of Specified Activities on Marine Mammals and their Habitat

The effects of underwater noise from the ACOE's construction activities have the potential to result in behavioral harassment of marine mammals in the vicinity of the project area. The notice of proposed IHA (86 FR 14579; March 17, 2021) included a discussion of the effects of anthropogenic noise on marine mammals and the potential effects of underwater noise from the ACOE's construction on marine mammals and their habitat. That information and analysis is incorporated by reference into this final IHA determination and is not repeated here; please refer to the notice of proposed IHA (86 FR 14579; March 17, 2021).

Estimated Take

This section provides an estimate of the number of incidental takes authorized through this IHA, which will inform both NMFS' consideration of "small numbers" and the negligible impact determination.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines "harassment" as any act of pursuit, torment, or annoyance, which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes would primarily be by Level B harassment, as use of the acoustic source (*i.e.*, rock setting) and visual disturbance has the potential to result in disruption of behavioral patterns for individual marine mammals. Based on the nature of the activity, Level A harassment is neither anticipated nor authorized. The mitigation and monitoring measures are expected to minimize the severity of the taking to the extent practicable.

As described previously, no mortality is anticipated or authorized for this activity. Below we describe how the take is estimated.

Generally speaking, we estimate take by considering: (1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) and the number of days of activities. We note that while these basic factors can contribute to a basic calculation to provide an initial prediction of takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.*, previous monitoring results or average group size). Due to the lack of marine mammal density for some species, NMFS relied on local occurrence data and group size to estimate take. For activities like this with visual disturbance impacts we must also estimate the area or space within which harassment is likely to occur. Below, we describe the factors considered here in more detail and present the take estimate.

Acoustic Thresholds

Using the best available science, NMFS has developed acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur PTS of some degree (equated to Level A harassment). Thresholds have also been developed identifying the received level of in-air sound above which exposed pinnipeds would likely be behaviorally harassed.

Level B Harassment for non-explosive sources – Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source (*e.g.*, frequency, predictability, duty cycle), the environment (*e.g.*, bathymetry), and the receiving animals

(hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.,* 2007, Ellison *et al.*, 2012). Based on what the available science indicates and the practical need to use a threshold based on a factor that is both predictable and measurable for most activities, NMFS uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS predicts that marine mammals are likely to be behaviorally harassed in a manner we consider Level B harassment when exposed to underwater anthropogenic noise above received levels of 120 decibel (dB) re 1 microPascal (μPa) (root mean square (rms)) for continuous (*e.g.,* vibratory pile-driving) and above 160 dB re 1 μPa (rms) for non-explosive impulsive (*e.g.*, impact pile driving) or intermittent (*e.g.*, scientific sonar) sources. The ACOE's proposed activity includes the use of continuous (general construction equipment and machinery) and impulsive (rock setting) sources, and therefore the 120 and 160 dB re 1 μPa (rms) thresholds are applicable.

For in-air sounds, NMFS predicts that harbor seals exposed above received levels of 90 dB re 20 μPa (rms) will be behaviorally harassed, and other pinnipeds will be harassed when exposed above 100 dB re 20 μPa (rms).

Level A harassment for non-explosive sources - NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) (Technical Guidance, 2018) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). The ACOE's activity includes the use of impulsive (rock setting) and non-impulsive (general construction) sources.

These thresholds are provided in Table 2. The references, analysis, and methodology used in the development of the thresholds are described in NMFS 2018 Technical Guidance, which may be accessed at

https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance.

Table 2. Thresholds identifying the onset of Permanent Threshold Shift.

	PTS Onset Acoustic Thresholds* (Received Level)	
Hearing Group	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	*Cell 1* $L_{pk,flat}$: 219 dB $L_{E,LF,24h}$: 183 dB	*Cell 2* $L_{E,LF,24h}$: 199 dB
Mid-Frequency (MF) Cetaceans	*Cell 3* $L_{pk,flat}$: 230 dB $L_{E,MF,24h}$: 185 dB	*Cell 4* $L_{E,MF,24h}$: 198 dB
High-Frequency (HF) Cetaceans	*Cell 5* $L_{pk,flat}$: 202 dB $L_{E,HF,24h}$: 155 dB	*Cell 6* $L_{E,HF,24h}$: 173 dB
Phocid Pinnipeds (PW) (Underwater)	*Cell 7* $L_{pk,flat}$: 218 dB $L_{E,PW,24h}$: 185 dB	*Cell 8* $L_{E,PW,24h}$: 201 dB
Otariid Pinnipeds (OW) (Underwater)	*Cell 9* $L_{pk,flat}$: 232 dB $L_{E,OW,24h}$: 203 dB	*Cell 10* $L_{E,OW,24h}$: 219 dB

* Dual metric acoustic thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds should also be considered.

Note: Peak sound pressure (L_{pk}) has a reference value of 1 µPa, and cumulative sound exposure level (L_E) has a reference value of 1µPa^{2}s. In this Table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for this Technical Guidance. Hence, the subscript "flat" is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.*, varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that will feed into identifying the area ensonified above the acoustic thresholds, which include source levels and transmission loss coefficient.

The sound field in the project area is the existing background noise plus additional construction noise from the proposed project. Marine mammals are expected to

be affected via sound generated by the primary components of the project (*i.e.*, rock setting and sediment removal).

Level B Harassment Zones

Transmission loss (TL) is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. TL parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography. The general formula for underwater TL is:

TL = B * Log10 (R1/R2), where

TL = transmission loss in dB

B = transmission loss coefficient; for practical spreading equals 15

R1 = the distance of the modeled SPL from the driven pile, and

R2 = the distance from the driven pile of the initial measurement

The recommended TL coefficient for most nearshore environments is the, practical spreading value of 15. This value results in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions, which is the most appropriate assumption for the ACOE's proposed activity.

In order to calculate distances to the Level A harassment and Level B harassment sound thresholds for this project, NMFS used acoustic monitoring data collected by the ACOE. In February 2019 a team of researchers from the ACOE Los Angeles District and Engineer Research and Development Center traveled to a breakwater repair project at the Port of Long Beach, CA to collect representative sound data in anticipation of the Port San Luis breakwater project. Maintenance activities on the Long Beach, CA breakwater provided near identical conditions to the proposed work activities at Port San Luis, but the Long Beach site has no marine mammals nearby. At Long Beach they collected in-air and in-water sound recordings from both the rock setting and other construction

equipment sounds. They also recorded ambient sound data at San Luis Obispo, CA near the breakwater to be used as a baseline measurement for proposed repair work. The analysis of the sound files provided by the ACOE to determine source levels relevant to marine mammal exposures contained some methods that we did not entirely concur with, but our acoustics expert (Dr. Shane Guan) was able to determine from them that in-water noise would not exceed marine mammal thresholds beyond 10 meters (m) (33 feet) from the source. He was also able to determine that in-air noise would not exceed the pinniped in-air thresholds at a distance greater than 100 m (328 feet) from the source.

Visual Disturbance

During the above-mentioned acoustic surveys of the similar breakwater repair work at the Port of Long Beach pinnipeds maintained a minimum approximate 150 foot (46 m) distance from construction equipment and personnel (Natalie Martinez-Takeshita, ACOE, personal communication 2020). Observations on a past breakwater repair project in Redondo Harbor, California showed that pinnipeds that flushed from distances up to 100 m (Natalie Martinez-Takeshita, ACOE, personal communication 2021). As noted above the construction barge could be up to 260 feet (80 m) long with activity occurring simultaneously at either end as well as the full reach of the crane. Based on the above information, we conservatively estimate a 200 m (660 ft) radius potential effect zone for Level B harassment of pinnipeds by visual disturbance. This equals or exceeds any effect radius from in-air noise. Given the breakwater is 2,400 feet (730 m) long, this means large portions of the breakwater should be undisturbed and available for animals to re-haulout on any given construction day.

Marine Mammal Occurrence and Take Calculation and Estimation

In this section we provide the information about the presence, density, or group dynamics of marine mammals that will inform the take calculations. Take by Level B harassment is authorized and summarized in Table 5.

Here we describe how the information provided above is brought together to produce a quantitative take estimate.

Merkel and Associates (2019) conducted three marine mammal surveys of the breakwater in 2018 as part of the preparation for this project. The surveys were in June, July and September. The focus was on other taxa besides marine mammals. Their most detailed marine mammal survey was in June when pinnipeds were identified to species level. They identified California sea lions and Steller sea lions hauled out on the breakwater, with 94 percent of the animals being California sea lions. Greater densities of pinnipeds were observed hauled out at the south eastern end of the breakwater, and the greatest densities were consistently observed at the most seaward end of the breakwater.

In further anticipation of this project, the ACOE conducted additional approximately monthly marine mammal surveys, weather permitting, in the project area in 2019 to estimate breakwater abundance levels to use to estimate take. The 2019 surveys did not distinguish between California sea lions and Steller seals and assumed the Merkel and Associates (2019) determination that 94 percent of the animals were California sea lions and 6 percent were Steller sea lions applied during 2019 as well. While harbor seals were not observed hauled out on the breakwater, the ACOE did observe them hauled out at the low lying rocky benches of Smith Island (approximately 400 m (1,300 feet) from the nearest repair area). They were also observed in the water adjacent to the breakwater on at least one occasion. No other marine mammal species were observed in the project area.

California Sea Lion and Steller Sea Lion

The ACOE surveys from 2019 found that pinnipeds were present on the breakwater from April through December (Table 3), likely due to lower wave energy at those times. The highest number were present from June through September. We averaged the three highest surveys (bolded in the table) during the likely work period to

determine that an average of 321.33 animals were present daily during the spring to fall construction season. Using the results of Merkel and Associates (2019) June 2018 survey we estimated those 321.33 animals were comprised of 302.05 California sea lions and 19.29 Steller sea lions per day. We used these numbers to estimate take for these two species for the project by multiplying these daily take estimates by the total number of work days (174). For California sea lions this is 302.05 x 174 = 52,557 takes, and for Steller sea lions this is 19.28 x 174 = 3,355 takes.

Table 3. ACOE 2019 Breakwater Pinniped Survey Results by Side of Breakwater

Survey Date	Leeward	Seaward	Total
1/30/2019	0	0	0
1/31/2019	0	0	0
2/1/2019	0	0	0
3/1/2019	0	*	0*
3/24/2019	0	*	0*
3/30/2019	0	*	0*
3/31/2019	0	*	0*
4/1/2019	0	*	0*
5/1/2019	0	18	18+
5/28/2019	188	*	188
6/3/2019	**182**	**115**	**297**
7/29/2019	**166**	**25**	**191**
8/27/2019	0	1	1
9/25/2019	**326**	**150**	**476**
11/6/2019	398	*	398*
12/5/2019	113	*	113*
12/28/2019	0	0	0**

*Seaward side of breakwater not surveyed because of sea state conditions, no pinnipeds expected to be hauled out during these times.
**No pinnipeds hauled out on breakwater, 3 observed swimming near head of breakwater.
Bold indicates months survey data was used to calculate the average abundance of pinnipeds on the PSL Breakwater per day.

Harbor Seal

While harbor seals were not observed hauled out on the breakwater, they were observed hauled out at the low lying rocky benches of Smith Island and in the water near the breakwater during the ACOE 2019 surveys. Estimated daily abundance for harbor seals was also calculated using the three highest abundance surveys from 2019 survey data from the likely construction season (late March through September, bolded in Table

4). The average abundance in the project area was 10.33 seals per day. We used this average and calculated total take for the project by multiplying by the total number of work days (174). For harbor seals this is 10.33 x 174 = 1,797 takes.

Table 4. ACOE 2019 Harbor Seal Survey Results

Survey Date	Swimming Near Breakwater	Hauled Out at Smith Is.	Swimming near Smith Island	TOTAL
1/30/19-2/1/19	0	13	Several	~16
3/1/2019	0	15	0	15
3/24/2019	**1**	**14**	**3**	**18**
5/1/2019	**0**	**10**	**0**	**10**
5/28/2019	**0**	**2**	**1**	**3**
6/3/2019	0	0	0	0
7/29/2019	0	0	0	0
8/27/2019	0	0	0	0
9/25/2019	0	0	0	0
11/6/2019	0	0	0	0
12/5/2019	0	25	0	25
12/28/2019	0	1	1	2

Bold indicates months survey data was used to calculate the average abundance per day.

Summary

The above-calculated take estimates are likely to be conservative as some animals may habituate to the project and regularly haul out on the parts of the breakwater where there is no construction activity, where construction activity has finished, or they may move to other nearby haulout locations. Moreover, because the main area of effect on any given day is no more than 300 m of breakwater length, the breakwater is much longer than this, most pinnipeds are concentrated at the far 200 m of the breakwater, and the project will begin at the landward end of the breakwater, far fewer animals will likely be taken in the early stages of the project.

Table 5. Authorized Amount of Taking, by Level A Harassment and Level B Harassment, by Species and Stock and Percent of Take by Stock

	Authorized Take		Percent of Stock
Species	Level B	Level A	
Harbor seal (*Phoca vitulina*) California Stock	52,557	0	20.4
California sea lion (*Zalophus californianus*) U.S. Stock	3,355	0	7.8

Steller sea lion (*Eumetopias jubatus*) Eastern DPS	1,797	0	6.6

Mitigation

In order to issue an IHA under Section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, we carefully consider two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned), and;

(2) The practicability of the measures for applicant implementation, which may consider such things as cost, impact on operations, and, in the case of a military readiness

activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

The following mitigation measures are in the IHA:

- Monitoring must take place from 30 minutes prior to initiation of construction activity (*i.e.*, pre-start clearance monitoring) through 30 minutes post-completion of construction activity.
- The ACOE must avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 10 m of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary to avoid direct physical interaction.
- Pre-start clearance monitoring must be conducted during periods of visibility sufficient for the lead Protected Species Observer (PSO) to determine the shutdown zones clear of marine mammals. Construction may commence when the determination is made.
- If construction is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zone or 15 minutes have passed without re-detection of the animal.
- The Holder must use soft start techniques. Soft start requires contractors and equipment to slowly approach the work site creating a visual disturbance allowing animals in close proximity to construction activities a chance to leave the area prior to stone resetting or new stone placement. Contractors shall avoid walking or driving equipment through the seal haul-out. A soft start must be implemented at the start of each day's construction activity and at any time following cessation of activity for a period of 30 minutes or longer.

- Vessels would approach the breakwater perpendicular to the area they need to be as much as is feasible to minimize interactions with pinnipeds on or near the breakwater.
- The Holder must ensure that construction supervisors and crews, the monitoring team, and relevant ACOE staff are trained prior to the start of construction activity subject to this IHA, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project must be trained prior to commencing work.
- Construction activity must be halted upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or within a 200 m Level B harassment zone.
- Construction work will start at the landward end of the breakwater as much as feasible.

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, NMFS has determined that the mitigation measures provide the means effecting the least practicable adverse impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an IHA for an activity, Section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected

to be present in the action area. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.*, presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.*, source characterization, propagation, ambient noise); (2) affected species (*e.g.*, life history, dive patterns); (3) co-occurrence of marine mammal species with the action; or (4) biological or behavioral context of exposure (*e.g.*, age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.*, marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and
- Mitigation and monitoring effectiveness.

Visual Monitoring

Marine mammal monitoring must be conducted in accordance with the Monitoring section of the application and Section 5 of the IHA. These observers must record all observations of marine mammals, regardless of distance from the construction activity. Marine mammal monitoring during construction activity must be conducted by NMFS-approved PSOs in a manner consistent with the following:

- Independent PSOs (*i.e.*, not construction personnel) who have no other assigned tasks during monitoring periods must be used;
- At least one PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;
- Other PSOs may substitute education (degree in biological science or related field) or training for experience; and
- The ACOE must submit PSO Curriculum Vitae for approval by NMFS prior to the onset of pile driving.

PSOs must have the following additional qualifications:

- Ability to conduct field observations and collect data according to assigned protocols;
- Experience or training in the field identification of marine mammals, including the identification of behaviors;
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;
- Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior; and
- Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.

One PSO will be employed. PSO location will provide an unobstructed view of all water within the shutdown zone, and as much of the Level B harassment zones as possible. PSO location is as follows:

(1) At the crane barge site or best vantage point practicable to monitor the shutdown zones; and

Monitoring will be conducted 30 minutes before, during, and 30 minutes after construction activities. In addition, observers shall record all incidents of marine mammal occurrence, regardless of distance from activity, and shall document any behavioral reactions in concert with distance from construction activity.

Reporting

A draft marine mammal monitoring report will be submitted to NMFS within 90 calendar days after the completion of pile driving and removal activities, or 60 calendar days prior to the requested issuance of any subsequent IHAs for construction activity at the same location, whichever comes first. A final report must be prepared and submitted within 30 days following resolution of any NMFS comments on the draft report. The report will include an overall description of work completed, a narrative regarding marine mammal sightings, and associated PSO data sheets. All draft and final marine mammal and acoustic monitoring reports must be submitted to *PR.ITP.MonitoringReports@noaa.gov* and *Dwayne.Meadows@noaa.gov*. Specifically, the report must include:

- Dates and times (begin and end) of all marine mammal monitoring.
- Construction activities occurring during each daily observation period, including how many and what type of rocks were set or reset and total duration of rock setting.
- Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea

state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance.

- PSO locations during marine mammal monitoring.
- Upon observation of a marine mammal, the following information:
    - PSO who sighted the animal and PSO location and activity at time of sighting;
    - Time of sighting;
    - Identification of the animal (*e.g.*, genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;
    - Distance and bearing of each marine mammal observed to the rock setting for each sighting (if rock setting was occurring at time of sighting);
    - Estimated number of animals (min/max/best);
    - Estimated number of animals by cohort (adults, juveniles, neonates, group composition, etc.);
    - Animal's closest point of approach and estimated time spent within the harassment zone;
    - Number of disturbances, by species and age, according to a three-point scale of disturbance (see Table 6). Observations of disturbance Levels 2 and 3 must be recorded as takes. Description of any additional marine mammal behavioral observations (*e.g.*, observed behaviors such as feeding or traveling;
- Detailed information about implementation of any mitigation (*e.g.*, shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal, if any.

The ACOE must submit all PSO datasheets and/or raw sighting data. If no

comments are received from NMFS within 30 days, the draft final report will constitute the final report. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt of comments.

Table 6. Levels of Pinniped Behavioral Disturbance

Level	Type of response	Definition
1	Alert	Seal head orientation or brief movement in response to disturbance, which may include turning head towards the disturbance, craning head and neck while holding the body rigid in a u-shaped position, changing from a lying to a sitting position, or brief movement of less than twice the animal's body length.
2	Movement	Movements in response to the source of disturbance, ranging from short withdrawals at least twice the animal's body length to longer retreats over the beach, or if already moving a change of direction of greater than 90 degrees.
3	Flush	All retreats (flushes) to the water.

Reporting Injured or Dead Marine Mammals

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the ACOE must report the incident to the Office of Protected Resources (OPR), NMFS and to the regional stranding coordinator as soon as feasible. If the death or injury was clearly caused by the specified activity, the ACOE must immediately cease the specified activities until NMFS is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of the IHA. The IHA-holder must not resume their activities until notified by NMFS. The report must include the following information:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);

- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and
- General circumstances under which the animal was discovered.

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be "taken" through harassment, NMFS considers other factors, such as the likely nature of any responses (*e.g.*, intensity, duration), the context of any responses (*e.g.*, critical reproductive time or location, migration), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS's implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

To avoid repetition, this introductory discussion of our analyses applies to all of the species listed in Table 5, given that many of the anticipated effects of this project on different marine mammal stocks are expected to be relatively similar in nature. Construction activities have the potential to disturb or displace marine mammals. Specifically, the project activities may result in take, in the form of Level B harassment

from in-air sounds and visual disturbance generated from rock setting and sediment removal. Potential takes could occur if individuals are present in the ensonified or disturbance zone(s) when these activities are underway.

The takes from Level B harassment would be due to potential behavioral disturbance or TTS. No mortality or PTS is anticipated given the nature of the activity and measures designed to minimize the possibility of injury to marine mammals. The potential for harassment is minimized through the construction method and the implementation of the planned mitigation measures (see **Mitigation** section).

For all species and stocks, take would occur within a very limited, confined area (Port San Luis harbor) of any given stock's range. Level B harassment will be reduced to the level of least practicable adverse impact through use of mitigation measures described herein. Behavioral responses of marine mammals to construction at the project site, if any, are expected to be mild and temporary. Marine mammals within the Level B harassment zone may not show any visual cues they are disturbed by activities (as noted during modification to the Kodiak Ferry Dock and other construction projects near pinnipeds) or could become alert, avoid the area, leave the area, or display other mild responses that are not observable such as changes in vocalization patterns. Given the short duration of noise-generating activities per day, any harassment would be temporary. There are no other areas or times of known biological importance for any of the affected species.

In addition, it is unlikely that minor noise effects in a small, localized area of habitat would have any effect on the stocks' ability to recover. In combination, we believe that these factors, as well as the available body of evidence from other similar activities, demonstrate that the potential effects of the specified activities will have only minor, short-term effects on individuals. The specified activities are not expected to

impact rates of recruitment or survival and will therefore not result in population-level impacts.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect the species or stock through effects on annual rates of recruitment or survival:

- No mortality is anticipated or authorized.
- No Level A harassment is anticipated or authorized.
- No biologically important areas have been identified within the project area.
- For all species, the harbor is a very small and peripheral part of their range.
- The ACOE would implement mitigation measures such as vessel avoidance and slow down, proceeding from the low density to high density areas to increase habituation, soft-starts, and shut downs; and
- Monitoring reports from similar work have documented little to no effect on individuals of the same species impacted by the specified activities.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the monitoring and mitigation measures, NMFS finds that the total marine mammal take from the proposed activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take may be authorized under Section 101(a)(5)(D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. When the

predicted number of individuals to be taken is fewer than one third of the species or stock abundance, the take is considered to be of small numbers. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

The amount of take NMFS authorizes of all species or stocks is below one third of the estimated stock abundance. These are all likely conservative estimates because they assume all takes are of different individual animals which is likely not the case as most stocks do not move in or out of the area frequently. Some individuals may return multiple times in a day, but PSOs would count them as separate takes if they cannot be individually identified.

Based on the analysis contained herein of the proposed activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq*.) and NOAA Administrative Order (NAO) 216-6A, NMFS must review our proposed action (*i.e.*, the issuance of an incidental harassment authorization) with respect to potential impacts on the human environment.

This action is consistent with categories of activities identified in Categorical Exclusion B4 (incidental harassment authorizations with no anticipated serious injury or

mortality) of the Companion Manual for NOAA Administrative Order 216-6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has determined that the issuance of the IHA qualifies to be categorically excluded from further NEPA review.

Endangered Species Act (ESA)

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA: 16 U.S.C. 1531 *et seq*.) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally, in this case with the West Coast Region Protected Resources Division Office, whenever we propose to authorize take for endangered or threatened species.

No incidental take of ESA-listed species is authorized or expected to result from this activity. Therefore, NMFS has determined that formal consultation under section 7 of the ESA is not required for this action.

Authorization

NMFS has issued an IHA to the ACOE for the potential harassment of small numbers of three marine mammal species incidental to the Port San Luis Breakwater Repair project in Avila Beach, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: April 21, 2021.

Catherine Marzin,

Acting Director, Office of Protected Resources,

National Marine Fisheries Service.

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